

CLAIMS

What is claimed is:

- 1 1. A sheet media input structure for a sheet media processing device,
2 comprising:
3 a sheet media supporting surface;
4 a movable pad downstream from the supporting surface along a media path
5 that extends from the supporting surface to and along the movable pad;
6 a pair of stationary pads downstream from the supporting surface along the
7 media path at a location where the stationary pads impede a leading edge of sheets
8 fed along the media path from a stack of sheets supported by the supporting surface;
9 and
10 the movable pad movable between a first position in which the movable pad
11 impedes a leading edge of sheets fed from the stack along the media path and a
12 second position in which the movable pad does not impede the leading edge of
13 sheets fed from the stack along the media path.
- 1 2. The structure of Claim 1, wherein each pad comprises an elastomeric
2 pad.
- 1 3. The structure of Claim 1, wherein the sheet media supporting surface
2 comprises a substantially vertical surface extending across the media path.
- 1 4. The structure of Claim 1, wherein the sheet media supporting surface
2 comprises a shelf extending across the media path to support the leading edge of
3 sheets in the stack.
- 1 5. The structure of Claim 1, wherein the stationary pads are spaced apart
2 from the movable pad across the media path.
- 1 6. The structure of Claim 2, wherein the movable pad and the stationary
2 pads are aligned with one another across the media path.

1 7. A sheet media input structure for a sheet media processing device,
2 comprising:
3 a sheet media supporting surface;
4 a movable pad downstream from the supporting surface along a media path
5 that extends from the supporting surface to and along the movable pad;
6 a pair of stationary pads protruding into the media path at a location
7 downstream from the supporting surface along the media path; and
8 the movable pad movable between a first position in which the movable pad
9 protrudes into the media path a first distance and a second position in which the
10 movable pad protrudes into the media path a second distance less than the first
11 distance.

1 8. The structure of Claim 7, wherein the stationary pads are spaced apart
2 from the movable pad across the media path.

1 9. The structure of Claim 8, wherein the movable pad and the stationary
2 pads are aligned with one another across the media path.

1 10. A sheet media input structure for a sheet media processing device,
2 comprising a combination of movable and stationary sheet separator pads disposed
3 across a sheet media path, at least one of the pads movable to vary the degree to
4 which the pads, in combination, impede the leading edge of sheets fed along the
5 media path.

1 11. A sheet media input structure for a sheet media processing device,
2 comprising:
3 a sheet media supporting surface;
4 a first movable feature downstream from the supporting surface along a media
5 path that extends from the supporting surface to and along the first feature, the first
6 feature configured to separate a top sheet in a stack of sheets supported on the
7 supporting surface from a next-to-top sheet in the stack;
8 a second stationary feature spaced apart from the first feature across the
9 media path, the second feature configured to separate a top sheet in the stack from
10 a next-to-top sheet; and

11 an actuator operative to move the first feature between a first position in which
12 the first feature impedes a leading edge of sheets fed from the stack along the media
13 path and a second position in which the first feature does not impede the leading
14 edge of sheets fed along the media path and the second feature impedes the leading
15 edge of sheets fed along the media path.

1 12. The structure of Claim 11, wherein:
2 the first feature comprises an elastomeric pad oriented at an obtuse angle
3 relative to the supporting surface when the first feature is in the first position; and
4 the second feature comprises an elastomeric pad oriented at an obtuse angle
5 relative to the supporting surface.

1 13. The structure of Claim 11, wherein the first feature is biased toward the
2 first position.

1 14. The structure of Claim 11, wherein:
2 the first feature comprises an elastomeric pad oriented at an obtuse angle
3 relative to the supporting surface when the first feature is in the first position; and
4 the second feature comprises a pair of elastomeric pads oriented at an obtuse
5 angle relative to the supporting surface, each pad located on opposite sides of the
6 first feature.

1 15. The structure of Claim 11, wherein the second feature does not impede
2 the leading edge of sheets fed along the media path when the first feature is in the
3 first position.

1 16. A sheet media pick mechanism, comprising:
2 a substantially vertical sheet media input tray;
3 a combination of movable and stationary sheet separator pads disposed
4 across a sheet media path, at least one of the pads movable to vary the degree to
5 which the pads, in combination, impede the leading edge of sheets fed from the tray
6 along the media path; and
7 a rotatable pick roller disposed adjacent to the media path opposite a movable
8 one of the separator pads.

1 17. The mechanism of Claim 16, wherein the input tray includes a
2 substantially vertical stationary upper sheet supporting surface and a rotatable lower
3 sheet supporting surface below the upper surface, the lower surface rotatable
4 between a first position in which the lower surface is substantially vertical and a
5 second position in which a bottom part of the lower surface adjacent to the pick roller
6 is rotated out toward the pick roller.

1 18. A sheet media pick mechanism, comprising:
2 a substantially vertical sheet media input tray;
3 a first movable feature downstream from the input tray along a media path that
4 extends from the supporting surface to and along the first feature, the first feature
5 configured to separate a top sheet in a stack of sheets in the input tray from a next-
6 to-top sheet in the stack;
7 a second stationary feature spaced apart from the first feature across the
8 media path, the second feature configured to separate a top sheet in the stack from
9 a next-to-top sheet; and
10 an actuator operative to move the first feature between a first position in which
11 the first feature impedes a leading edge of sheets fed from the stack along the media
12 path and a second position in which the first feature does not impede the leading
13 edge of sheets fed along the media path and the second feature impedes the leading
14 edge of sheets fed along the media path; and
15 a rotatable pick roller disposed adjacent to the media path opposite the first
16 feature.

1 19. A printer, comprising:
2 a substantially vertical sheet media input tray;
3 a print engine;
4 a pick/feed mechanism operative to move media sheets from the input tray to
5 the print engine along a media path, the pick/feed mechanism including a
6 combination of movable and stationary sheet separator pads disposed across the
7 sheet media path, at least one of the pads movable to vary the degree to which the
8 pads, in combination, impede the leading edge of sheets fed from the tray along the

9 media path, and a rotatable pick roller disposed adjacent to the media path opposite
10 a movable one of the separator pads; and
11 a printer controller configured to control the operation of the print engine and
12 the pick/feed mechanism.

1 20. A printer, comprising:
2 a substantially vertical sheet media input tray;
3 a print engine;
4 a pick/feed mechanism operative to move media sheets from the input tray to
5 the print engine along a media path, the pick/feed mechanism including
6 a first movable feature downstream from the input tray along a media
7 path that extends from the supporting surface to and along the first feature,
8 the first feature configured to separate a top sheet in a stack of sheets in the
9 input tray from a next-to-top sheet in the stack,
10 a second stationary feature spaced apart from the first feature across
11 the media path, the second feature configured to separate a top sheet in the
12 stack from a next-to-top sheet,
13 an actuator operative to move the first feature between a first position in
14 which the first feature impedes a leading edge of sheets fed from the stack
15 along the media path and a second position in which the first feature does not
16 impede the leading edge of sheets fed along the media path and the second
17 feature impedes the leading edge of sheets fed along the media path, and
18 a rotatable pick roller disposed adjacent to the media path opposite the
19 first feature; and
20 a printer controller configured to control the operation of the print engine and
21 the pick/feed mechanism.

1 21. A sheet media input structure for a sheet media processing device,
2 comprising:
3 a means for supporting sheet media in a substantially vertical orientation;
4 a combination of movable and stationary means for separating a top sheet in a
5 stack of sheets supported on the supporting means from a next-to-top sheet in the
6 stack; and

7 a means for moving one of the pads to vary the degree to which the pads, in
8 combination, impede the leading edge of sheets fed from the stack along a media
9 path through the processing device.